



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/323,230	06/01/1999	YASUNORI UETANI	2185-0343P	8929

2292 7590 12/04/2002

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

CHU, JOHN S Y

ART UNIT	PAPER NUMBER
----------	--------------

1752

DATE MAILED: 12/04/2002

24

Please find below and/or attached an Office communication concerning this application or proceeding.

AS 24

Office Action Summary

Application No.

09/323,230

Applicant(s)

TAKATA ET AL.

Examiner

John S. Chu

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 6-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is responsive to the reconsideration received 9/25/02.

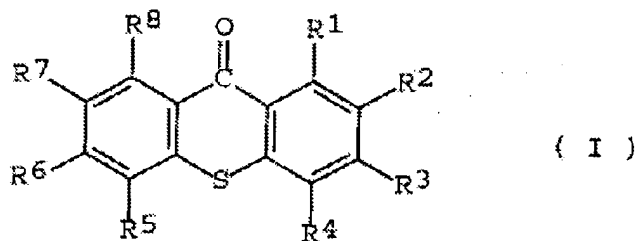
Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, and 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over TACHIKAWA et al in view of a AOA et al.

The claimed invention is drawn to an article comprising a substrate comprising a silicon wafer and a positive resist composition comprising a novolac resin; an o-quinonediazide sulfonic acid ester of a compound having a phenolic hydroxyl group; and a thioxanthone compound represented by the following formula (I):



TACHIKAWA ET AL discloses a photosensitive composition comprising a quinonediazide compound and a sensitizer wherein the sensitizers are disclosed in column 3, lines 3-15. Applicants are directed to line 12 for the suggestion of thioxanthone as an additive aromatic ketone.

TACHIKAWA ET AL lacks an explicit example using the claimed and disclosed thioxanthone, however it would have been *prima facie* obvious to one of ordinary skill in the art

Art Unit: 1752

of photosensitive quinonediazide containing compositions to use any of the listed aromatic ketones with the reasonable expectation of same or similar results as disclosed in TACHIKAWA ET AL for the formation of positive and negative images. TACHIKAWA ET AL further lacks the explicit use of a silicon wafer as a substrate to coat the photosensitive composition.

TACHIKAWA ET AL, fails to explicitly disclose the presence of a sensitizer as claimed such as thioxanthone, however the use of sensitizers is to expand the spectral range and the activate the acid generators are well known and can easily be added to provide known and expected results.

AOAI ET AL '143 discloses in the FIELD OF THE INVENTION (col. 1, lines 26-32) that photosensitive compositions can be used as photoresist compositions or lithographic printing plates wherein the application of the photosensitive composition would decide the substrate to be coated, such that a silicon wafer and a printing plate substrate are analogous based on the desired application. Clearly the photosensitive composition comprising a quinonediazide compound, a phenolic resin and a thioxanthone is known in the art and merely coating the composition on a silicon wafer or a printing plate substrate is obvious to the skilled artisan depending on the desired application.

It would have been *prima facie* obvious to one of ordinary skill in the art of photosensitive composition to first coat the photosensitive compositions of TACHIKAWA et al on a silicon wafer as demonstrated taught by the FIELD OF INVENTION disclosed in AOAI ET AL. It would also been *prima facie* obvious to the skilled artisan to add thioxanthone in place of 1,2-benzanthraquinone of Example to function as a sensitizer to expand the spectral sensitivity of

Art Unit: 1752

the compositions as well as help activate the acid generators and reasonably expect same or similar results as recited in TACHIKAWA ET AL.

The arguments have been carefully considered, however are unpersuasive because the prior art reference recognizes the similar and conventional uses of the photoresist composition to the chemically amplified resists such that the mere preference of the substrate is obvious over the disclosure in AOAI et al '143. The choice of substrate is recognizably an alternative selection based on the state and preference of the use of the composition, such that analysis of the prior art and level of ordinary skill is not distinguished by the difference in the function of a photolithographic composition whether it is a chemically amplified, positive or negative composition. The Office maintains the rejection wherein it is believed the *prima facie* case of obviousness has been made and meets the criteria under 35 U.S.C. 103 and that applicants have overanalyzed the prior art to require a

3. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

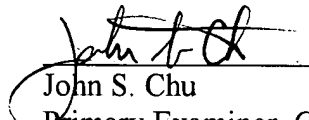
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Art Unit: 1752

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (703) 308-2298. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

The fax phone number for this Group is (703) 305-5433.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.


John S. Chu
Primary Examiner, Group 1700

J.Chu
December 2, 2002